Yurok Tribe and Climate Change:

An Initial Prioritization Plan

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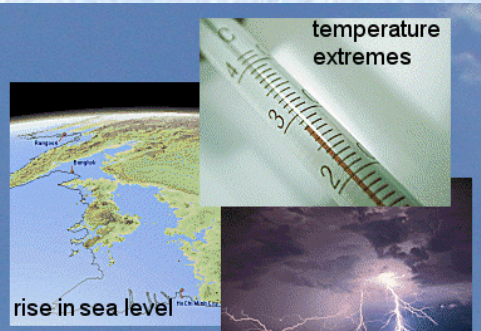
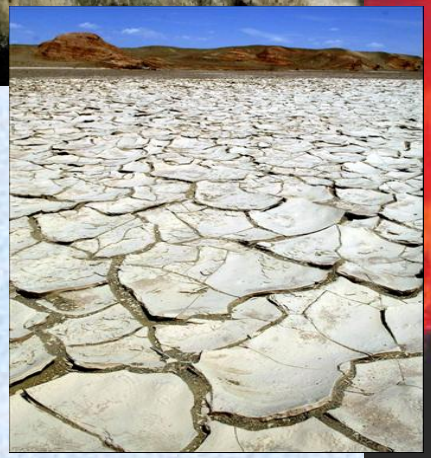
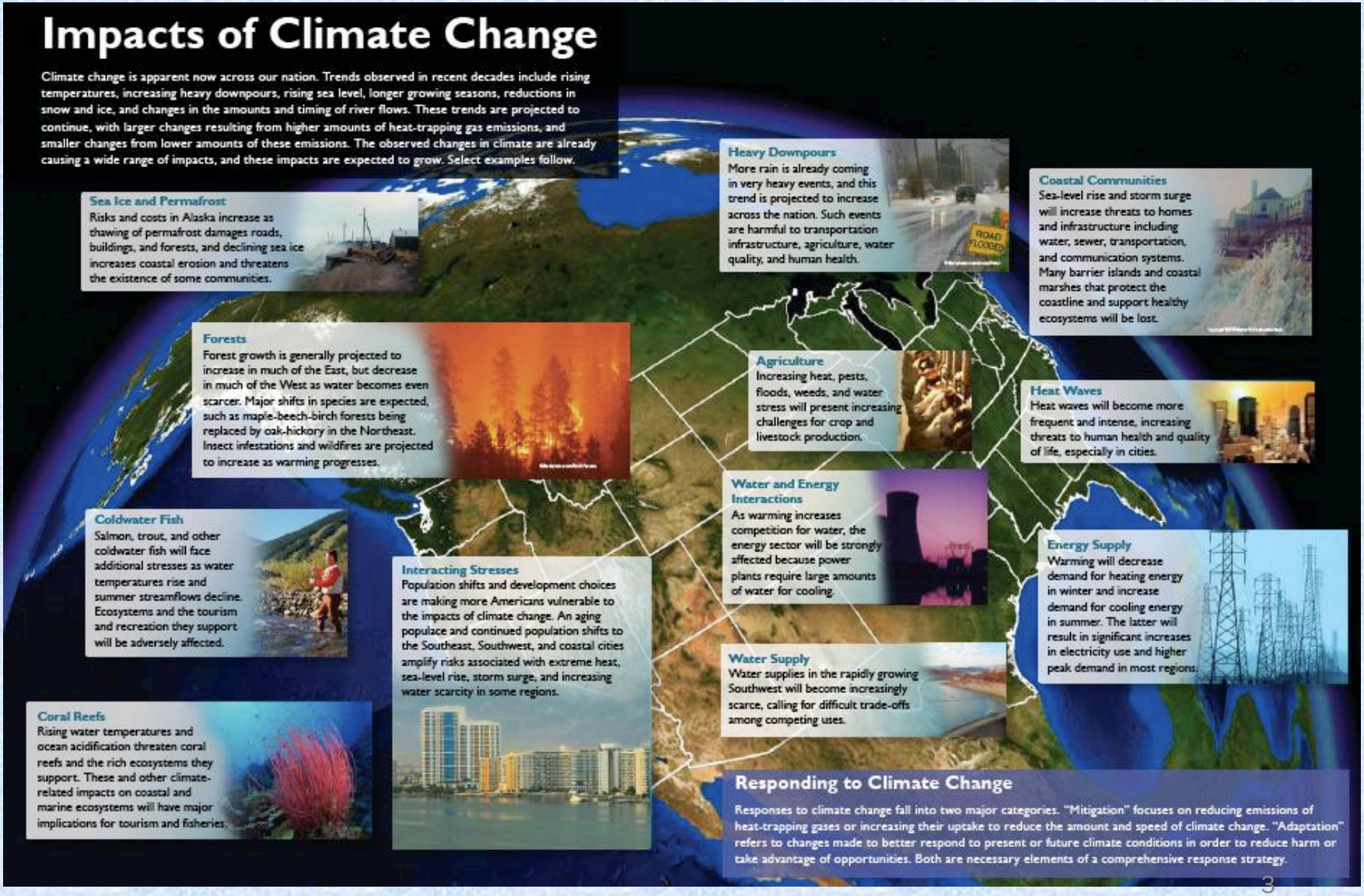
Observed Impacts: Global

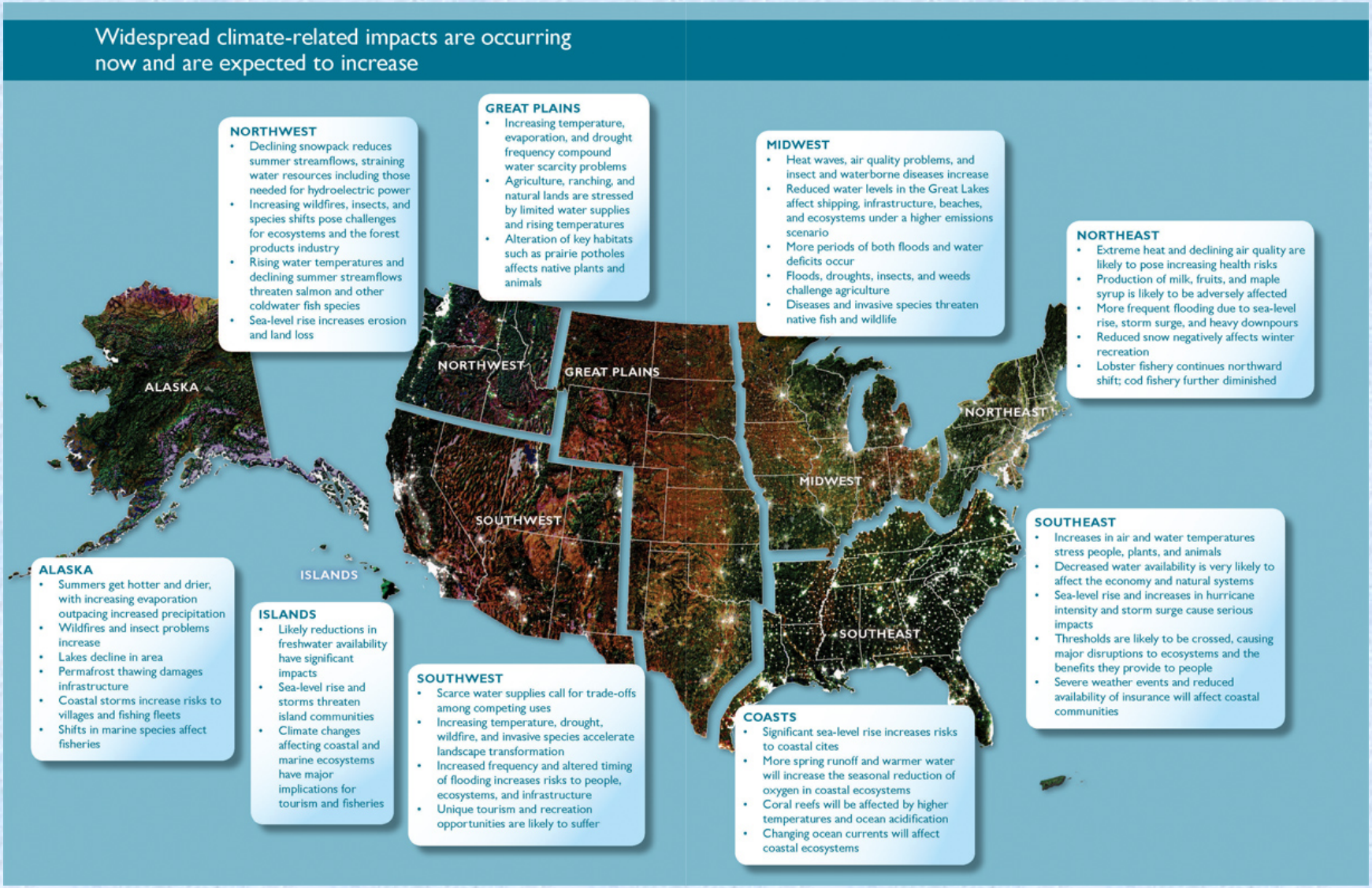




Climate Change Impacts: National



Climate Change Impacts: Regional



Climate Change Impacts: Yurok

Some Climate Change Impacts on Yurok Lands and Resources are already observable, other impacts are predicted to occur in the future.

- Sea Level Rise
- Changes in Temperature
- Changes in Precipitation
- Changes in Hydrology
- Changes in Aquatic Resources
- Changes in Terrestrial Resources

Sea Level Rise & Yurok Territory

Global Warming is predicted to result in sea level rise, impacts coastal communities and areas around the globe.

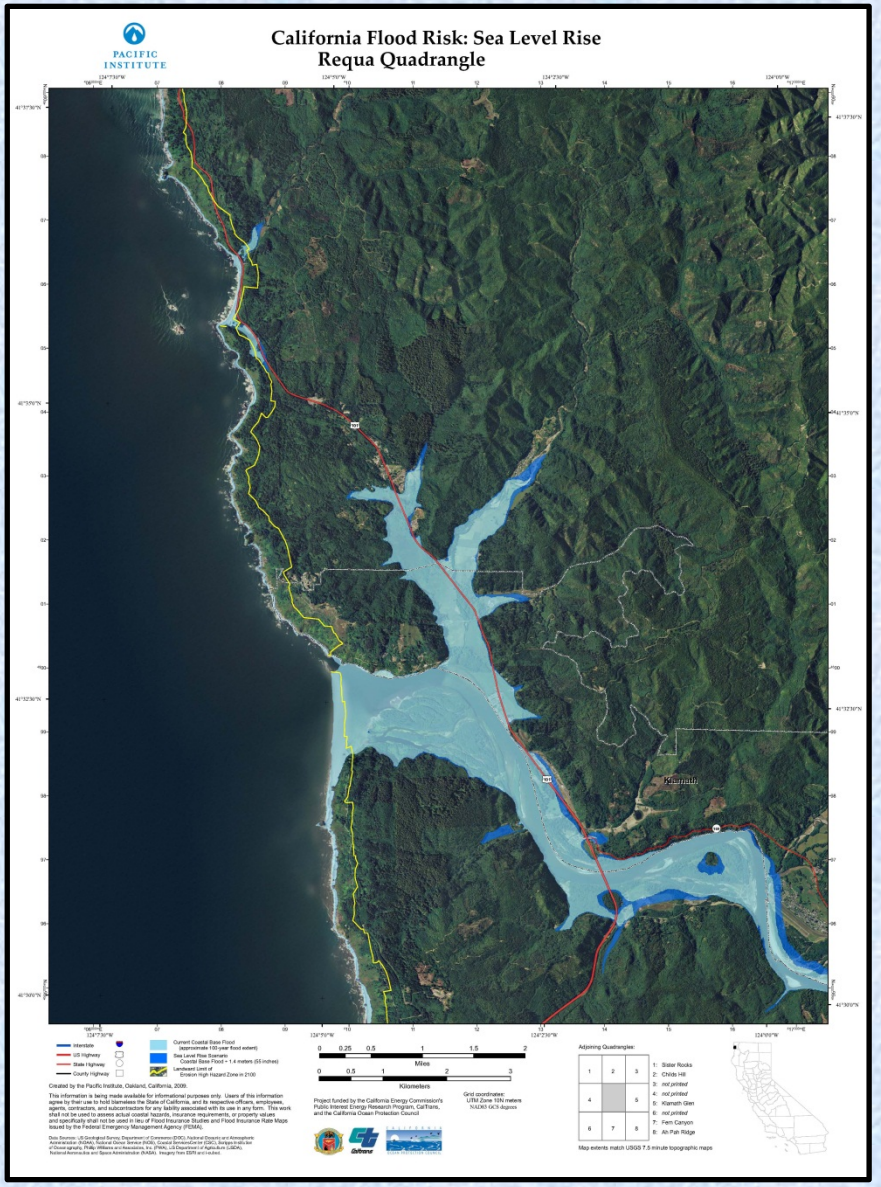
Sea level rise is a result of melting polar ice caps and glaciers, increasing the amount of water in the world's oceans.

The Pacific Institute developed maps for the purposes of illustrating sea level rise along the California Coast.

Current scientific observations indicate that sea level rise is happening faster than previously predicted.

Predicted impacts are coastal erosion (yellow line) and coastal inundation (the blue areas).

The Lower portions of the Yurok Reservation will experience the most impacts from sea level rise.



Sea Level Rise & Yurok Territory

Predicted Sea Level rise along the coastal areas of Yurok Territory would impact coastal lagoons, communities and numerous Trust Resources around these ecosystems.

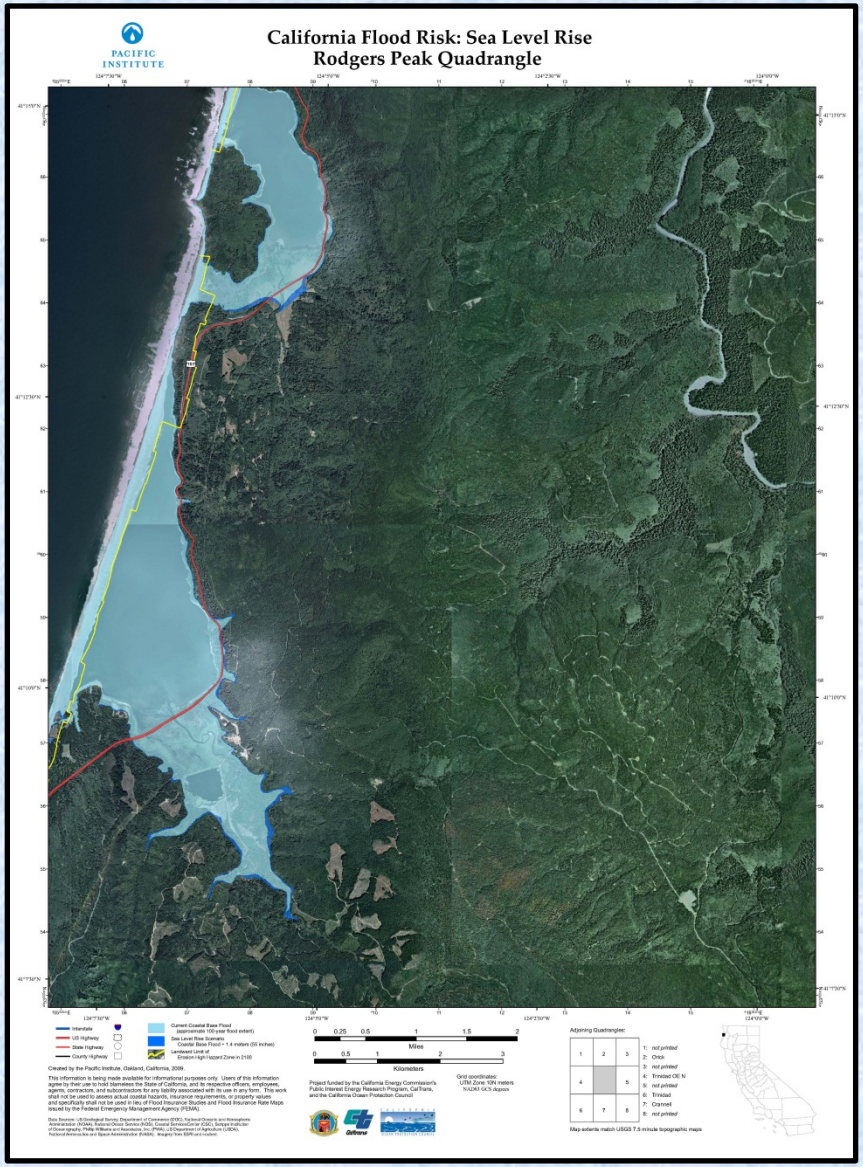
Coastal lagoons and resource areas will be inundated by the Pacific Ocean .

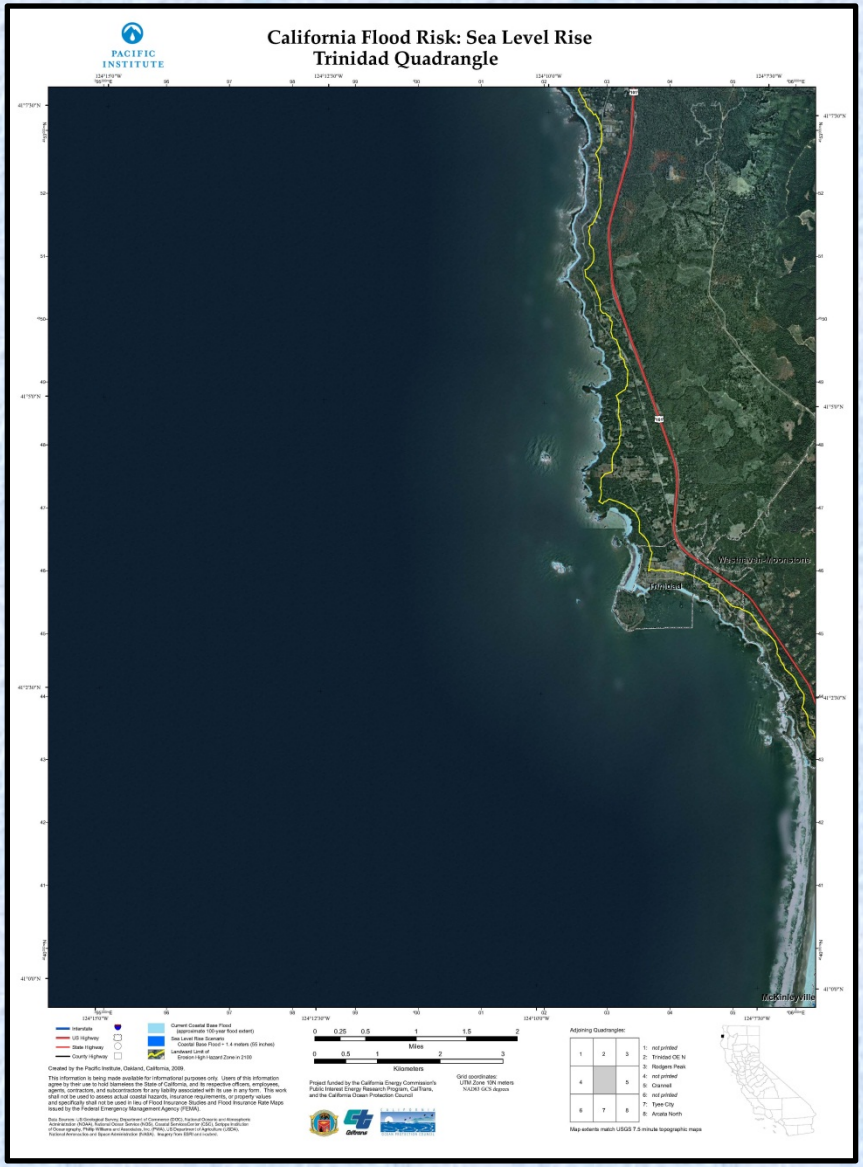
Numerous Cultural and Subsistence Resources and Use Areas will be impacted.

Plant and animal communities that inhabit these unique ecosystems may be lost, or forced to migrate to more suitable habitats.

Flooding and erosion of coastal areas threatens coastal communities, including places where many Yurok People live.

Sea Level Rise & Yurok Territory



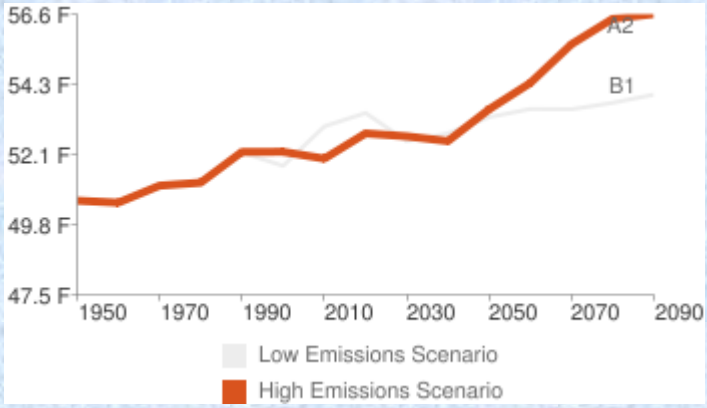


Temperature Change & Yurok

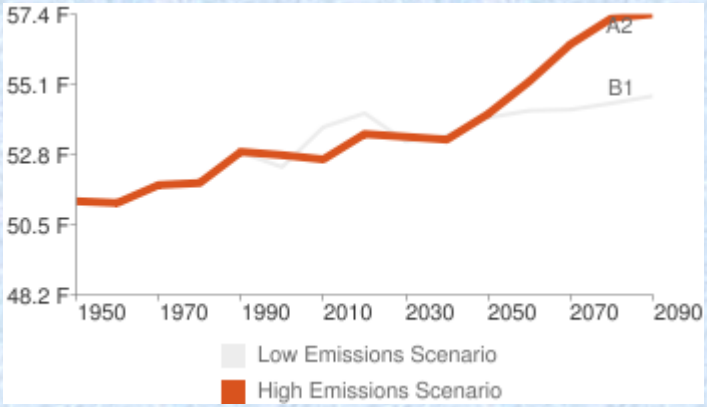
California has developed Climate Change Models to predict temperature changes over time. Source: http://cal-adapt.org/

Changes in temperature will impact water temperature, aquatic and terrestrial species and associated habitats.

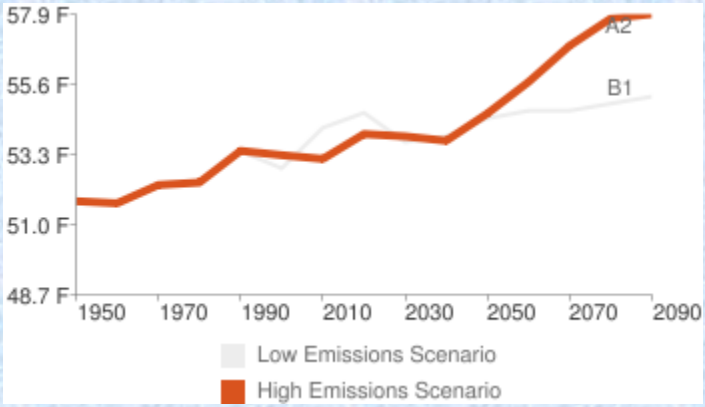
Klamath Area: Predicted Temperature Change



Freshwater Area: Predicted Temperature Change



Weitchpec Area: Predicted Temperature Change



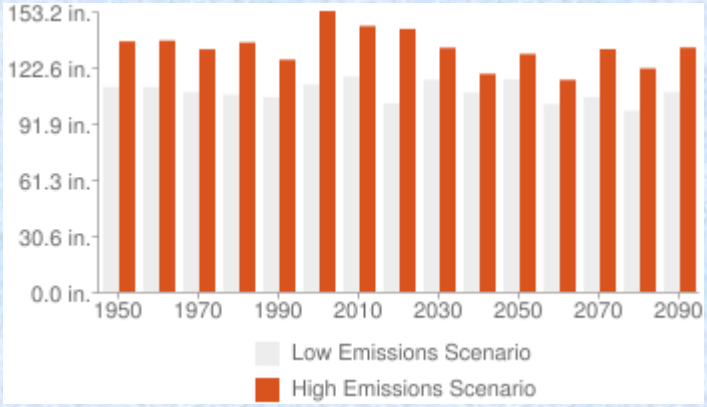
Precipitation Changes & Yurok

California has developed Climate Change Models to predict potential impacts. Source: http://cal-adapt.org/

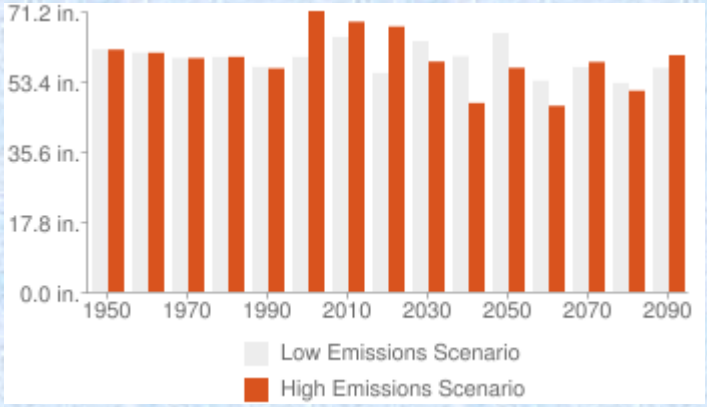
The graphs illustrate the predicted changes in precipitation throughout Yurok Territory.

Changes in precipitation may be in the amount of precipitation or the type (rain or snow).

Klamath Area: Predicted Changes in Precipitation



Freshwater Area: Predicted Changes in Precipitation



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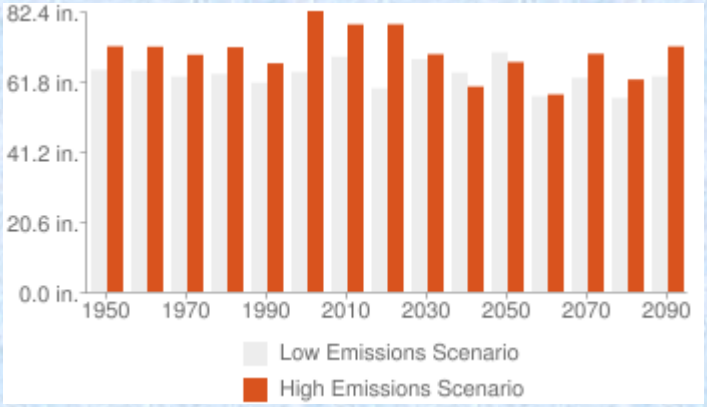
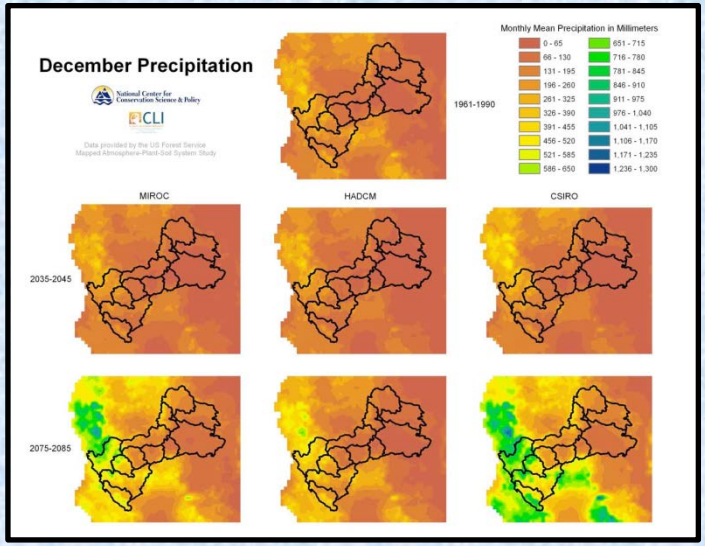


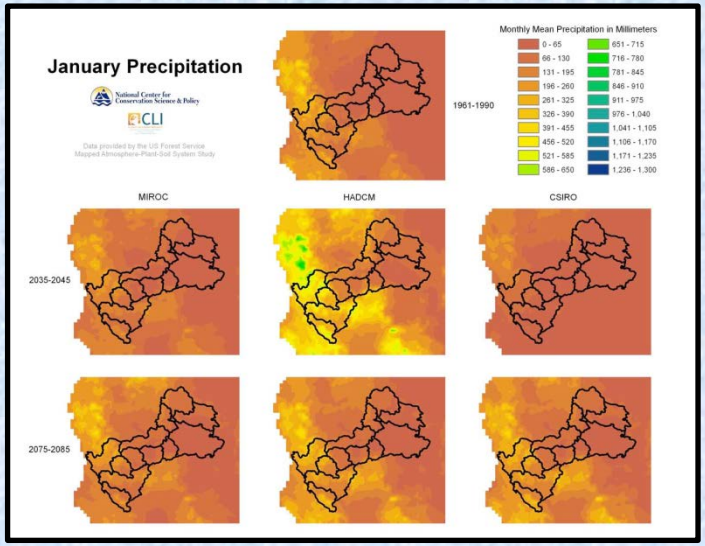
Precipitation Changes & Yurok

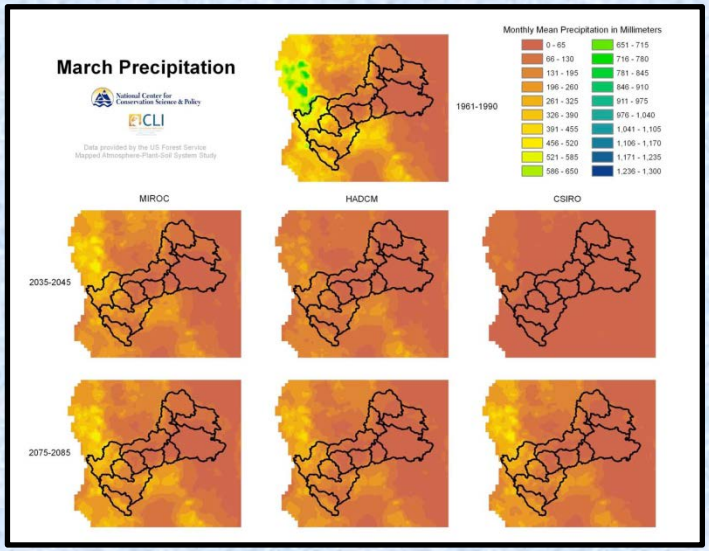
Klamath Basin

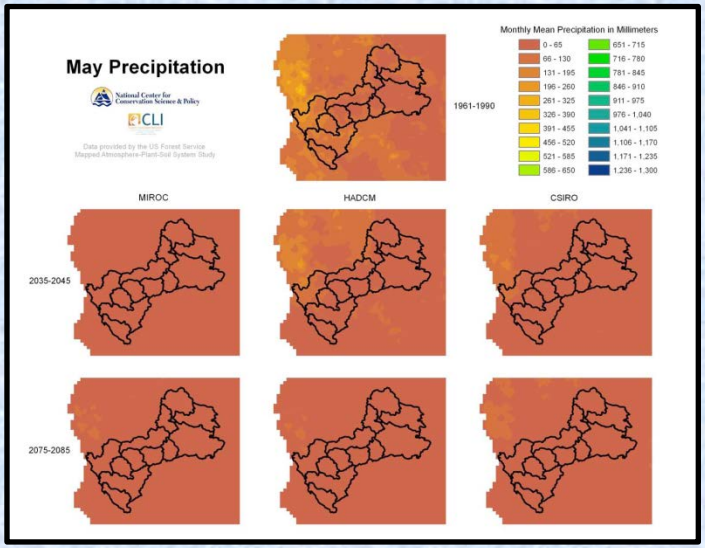
Three Climate Scenarios have been used to predict future changes in monthly precipitation in the Klamath Basin.

Changes in precipitation will impact snow pack and water availability, timing and intensity of rain events (ie: floods), stream flows and temperatures.







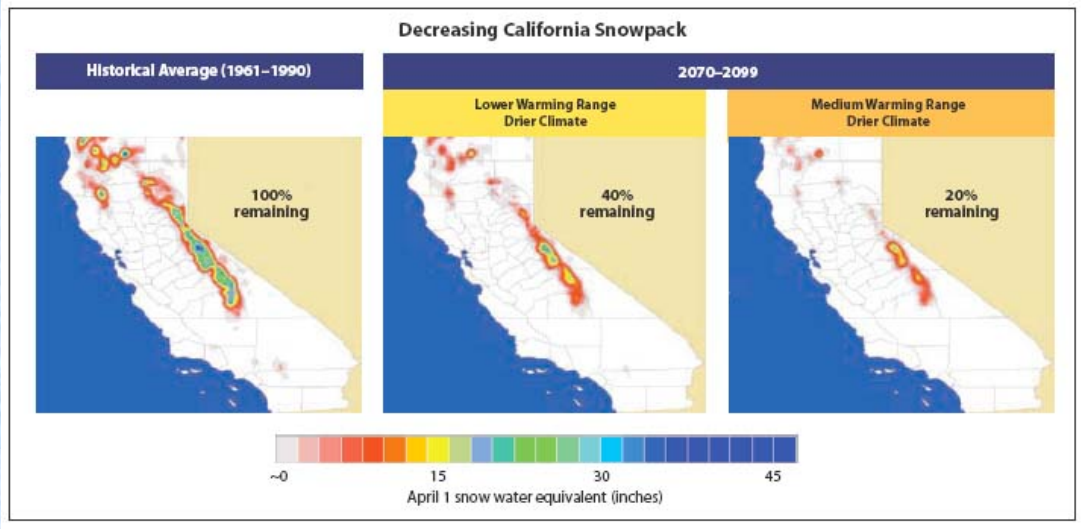


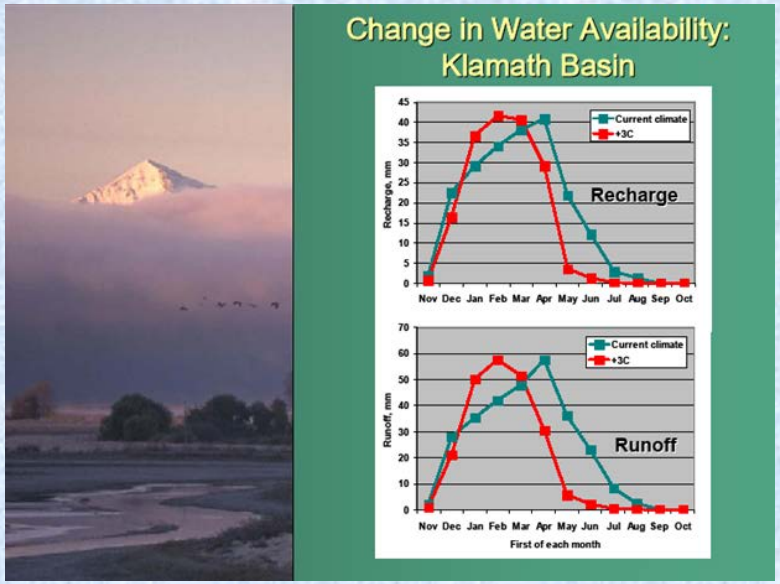
Hydrological Changes & Yurok

Predicted hydrological changes in the Klamath Basin may result from changes in the timing, type (snow versus rain) and intensity of precipitation throughout the entire basin.

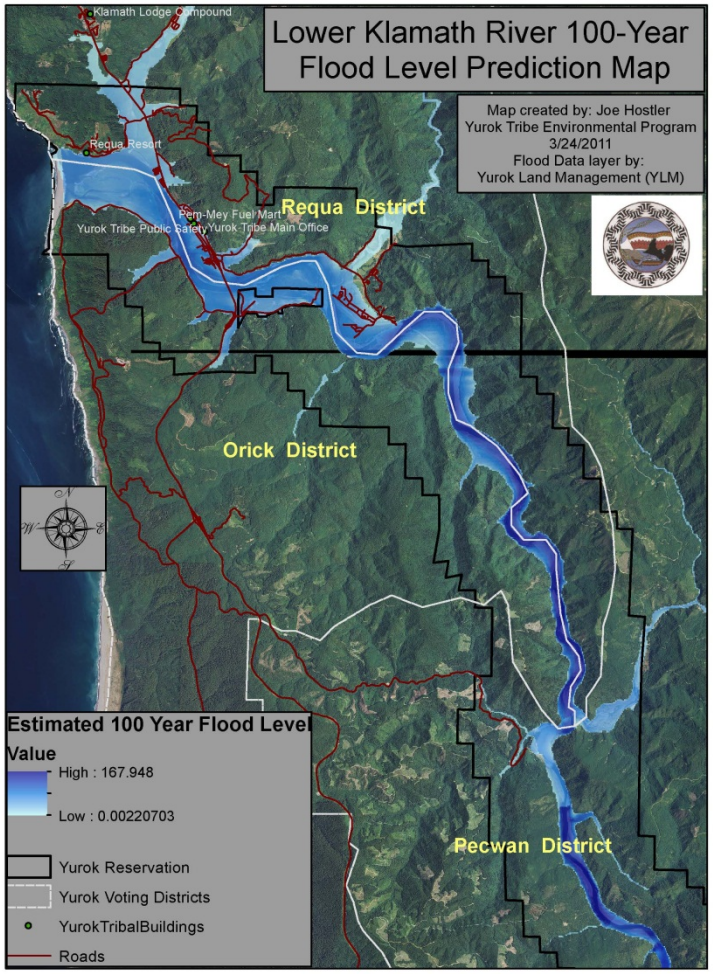
These changes may result in more rain/less snow in winter months, higher winter flows and increased flooding, and lower flows and warmer water temperatures in summer months. Flood events, typically every 100 years, are predicted to occur more frequently.

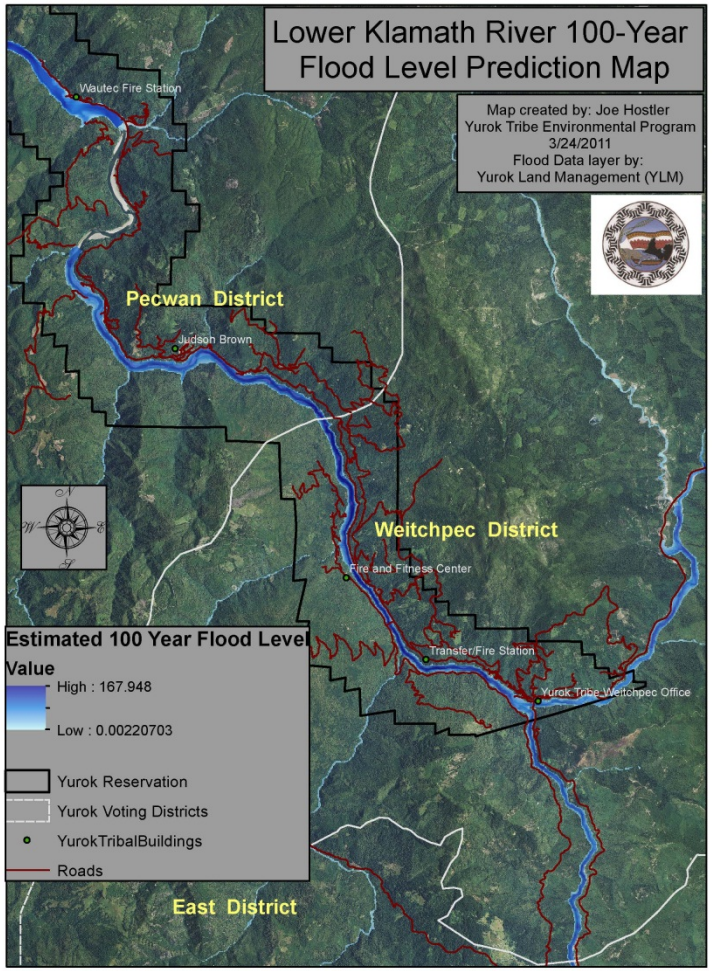
Changes in hydrology may impact the timing and abundance of subsistence species such as salmon, pacific lamprey and sturgeon.





Lower Klamath: 100 Year Flood Model





Potential Climate Change Impacts and Aquatic Resources

- Water Sources
- Water Quality
- Water Temperature
- Wetlands
- Klamath River Estuary
- Fisheries Resources
- Coastal and Marine Resources
- Water Borne Diseases & Pathogens

Potential Climate Change Impacts and Terrestrial Resources

- Species Loss
- Species Migration
- Invasive Species
- Increased Wildfire
- Drought
- Diseases
- Ecosystem Changes
- Habitat Loss

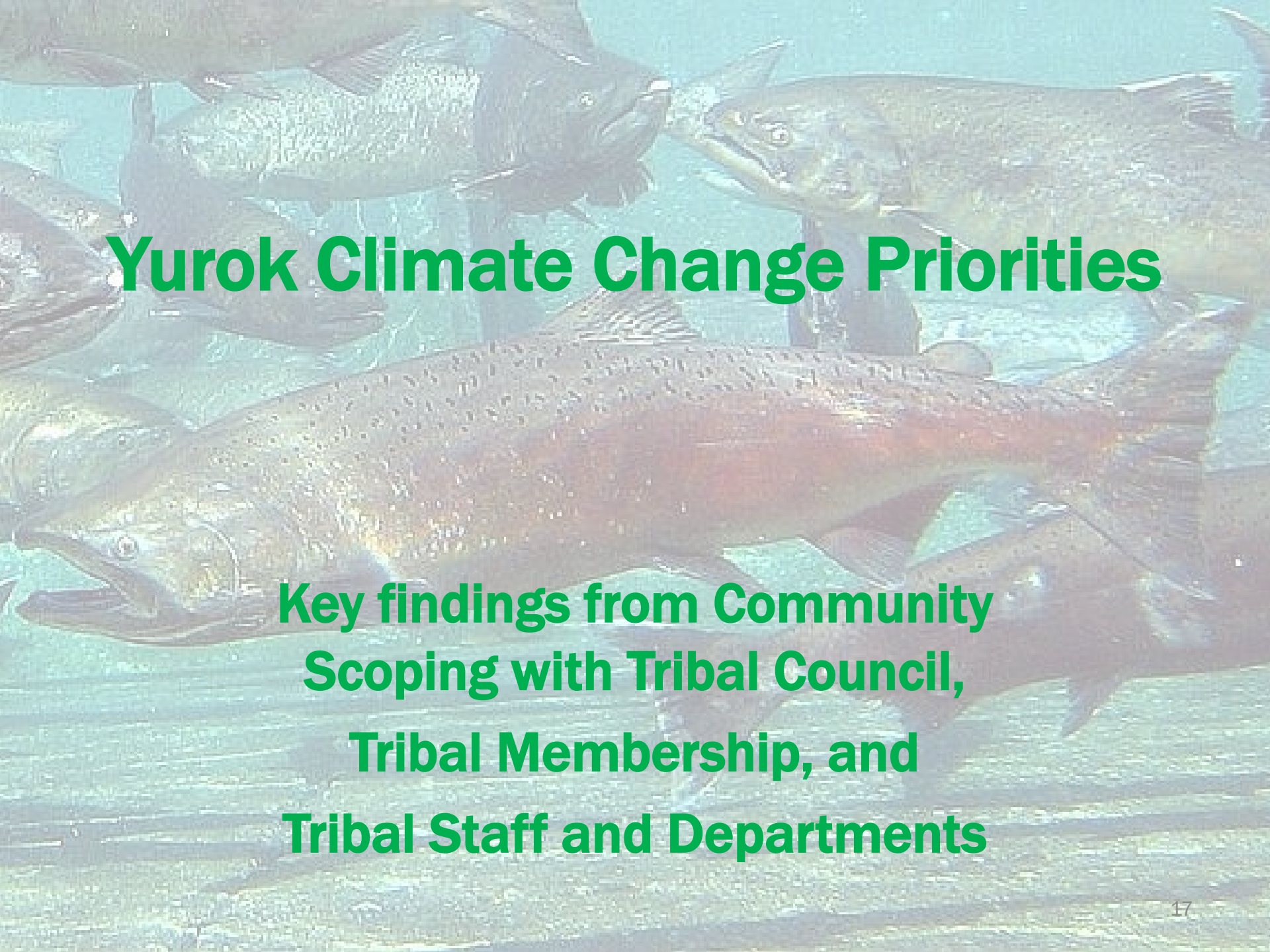
Yurok Trust Resources & Climate Change

Some Yurok Trust resources may be at risk to the impacts of Climate Change.

Some species may change distribution, or timing and location of migration. Some may go extinct.

Ecologically sensitive species important to Yurok include:

Salmon, Pacific lamprey (eel), Green Sturgeon, freshwater and ocean mussels, seaweed, Redwood, Tan Oak, Roosevelt Elk, and numerous other plants and animals used for subsistence, ceremonies, cultural practices (such as basketry) and traditional medicines.



Yurok Climate Change Priorities

Key findings from Community Scoping with Tribal Council, Tribal Membership, and Tribal Staff and Departments

Priority 1: Protecting and Preserving Yurok Lifeways, Culture and Traditions

Priority 2: Protecting Yurok People and Yurok Communities

- Community Health
- Community Services
- Infrastructure and Development
- Transportation Systems
- Emergency Response
- Educational Services
- Cultural Resources and Use Areas
- Cultural Practices and Traditions

Priority 3: Protecting and Preserving Yurok Traditional Ecological Knowledge

- Oral Traditions
- Yurok Stories
- Elder Wisdom
- Yurok Language
- Yurok Youth
- Cultural Restoration
- Education
- Traditional Resource Management

Priority 4: Protecting Water Resources

- Klamath River Watershed
- Streams & Tributaries
- Wetlands
- Estuary
- Water Quality
- Cold Water Sources
- Pacific Ocean
- Coastal Waters

Priority 5: Protecting Aquatic Species

- Salmon
- Sturgeon
- Pacific Lamprey
- Other Freshwater Species
- Marine and Coastal Species
- Fisheries Management & Restoration
- Habitat Protection and Restoration

Priority 6: Protecting Terrestrial Species

- Redwood
- Tan Oak
- Basketry Plants
- Roosevelt Elk
- California Condor
- Traditional Medicines
- Traditional Foods

Next Steps and Goals

- Secure Dedicated Climate Change Funding
- Continue Advocacy on Climate Change EJ Issues
- Increased engagement with agency and governmental Climate Change planning efforts
- Fill Data Gaps and Information Needs
- Conduct Comprehensive Vulnerability Assessment – underway for Water
- Identify and Protect Areas of Resiliency
- Develop Adaptation Plans
- Develop Mitigation Plans
- Implement Climate Change Plans
- Continued Community Outreach and Education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